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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,806	11/21/2003	Leonid Razoumov	010052D1	3290

23696 7590 11/22/2010

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EXAMINER	
MALEK, LEILA	
ART UNIT	PAPER NUMBER
2611	

NOTIFICATION DATE	DELIVERY MODE
11/22/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com

Office Action Summary	Application No.	Applicant(s)	
	10/719,806	RAZOUMOV ET AL.	
	Examiner	Art Unit	
	LEILA MALEK	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 October 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-13 and 15-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-13 and 15-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/25/2010 has been entered.

Response to Arguments

2. Applicant's arguments filed on 10/25/2010, regarding 35 U.S.C. 103(a) rejections of claims 1, 6-10, and 15-18 have been fully considered but they are not persuasive.

Applicant's Argument: Applicant argues that Park, Rhoads, LaRosa, and Saeijs, fail to disclose or suggest receiving and demodulating a preamble at a first station and determining an energy value for a transmission from the first station to a second station, where the energy value is based on the preamble.

Examiner's Response: Examiner respectfully disagrees. Examiner asserts that Park discloses a method for receiving (see Fig. 2, where the mobile station (MS) receives the pilot (preamble)) and demodulating (see column 6, lines 3-8, wherein despreading has been interpreted as demodulating by the examiner, because spreading is modulating a signal with a PN code and therefore despreading is demodulating the signal using a replica of that PN code) a preamble at a first station (i.e., a mobile station); determining an energy value (see column 3, lines 14-49) for a transmission from the first station (i.e.,

the mobile station) to a second station (i.e., a base station), wherein the energy value is based on preamble (the pilot signal disclosed by Park has been interpreted as the preamble because they have the same functionality and they serve the same purpose) (see Fig. 2, signal 212 received at the mobile station, block 214, measuring the strength or energy of the preamble).

Applicant's Argument: Applicant argues that pilots and preambles do not have the same functionality.

Examiner's Response: Examiner asserts that the terms "preamble" and "pilot" have been used in the art interchangeably. As evidence, examiner would like to call the attention of the Applicant to the following references: (US 5,400,362, see column 3, last paragraph) (US 6,101,400 see column 8, lines 15-17) (US 2001/0053141, paragraph 0080) (US 2002/0164963, paragraph 0008) and (US 2009/0233544, paragraph 0038).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 10, 17, and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As to claims 10, 17, and 18, term "operable" is vague and indefinite. It is not clear if the processor is only capable of demodulating the preamble or it actually demodulates the preamble.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 6-10, and 15-18, are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al. (hereafter, referred as Park) (US 6,643,520), Rhoads (US 6,278,781), and LaRosa et al. (hereafter, referred as LaRosa) (US 6,628,965), further in view of Saeijs et al. (hereafter, referred as Saeijs) (US 6,556,590).

As to claims 1, 8, and 9, Park discloses a method for receiving (see Fig. 2, where the mobile station (MS) receives the pilot (preamble)) and demodulating (see column 6, lines 3-8, wherein despreading has been interpreted as demodulating by the examiner, because spreading is modulating a signal with a PN code and therefore despreading is demodulating the signal using a replica of that PN code) a preamble at a first station (i.e., a mobile station); determining an energy value (see column 3, lines 14-49) for a transmission from the first station (i.e., the mobile station) to a second station (i.e., a base station), wherein the energy value is based on preamble (the pilot signal disclosed by Park has been interpreted as the preamble because they have the same functionality and they serve the same purpose) (see Fig. 2, signal 212 received at the mobile station, block 214, measuring the strength or energy of the preamble); forming a message carrying the energy value (see Fig. 2, signal 216, Fig. 3, signal from 353 to 313, and column 3, lines 13-49); and transmitting the message to the second station

(see Figs. 2 and 3), wherein the energy value is a pilot to traffic ratio (see column 3, lines 14-44). Park does not disclose that the energy value is the traffic to pilot ratio as opposed to pilot to traffic ratio, however, since both ratios represent the relative magnitudes of two quantities, it would have been obvious to one of ordinary skill in the art to pick any of these ratios (either pilot to traffic or traffic to pilot) to convey the energy information (i.e. conveying the energy value of the signal transmitted in the channel) in order to obtain the same result. Park also does not disclose locating the energy value in a look-up table and selecting an index value associated with the energy value, and forming a message carrying the index value. Furthermore, Park does not disclose that the message carries an identity of a target destination of the payload data, a transmission rate of a sub-packet, a number of sub-packets to carry the full amount of the data payload, and a timing of arrival of the sub-packets. As to the first limitation, Rhoads discloses a wireless communication system (see the abstract), wherein a ROM in the telephone device stores 256 different messages. Rhoads further discloses that when the telephone is operated, it generates an index for the stored messages and transmits this index to the call site allowing the central office station to identify the expected message from the matching database on a secure disk 52 containing the same 256 messages (see column 12, second paragraph). Although Rhoads does not disclose that the saved messages are energy values, however, Rhoads's reference contains a general teaching of saving a value in a memory and sending only the index of that value to the other parties in a communication system to increase the security of the system (see the abstract). Therefore for the reason stated

above, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Park as suggested by Rhoads to achieve a higher level of security in the system. Rhoads does not disclose that the ROM is a look-up-table, however, using a look-up table instead of a ROM is a matter of design choice and it would have been obvious to one of ordinary skill in the art at the time of invention to use a look-up table instead of the ROM to meet the design requirements of the system. Park and Rhoads, disclose all the subject matters claimed in claims 1, 8, and 9, except that the message also carries an identity of a target destination of a data payload, a transmission rate of the sub-packet, a number of sub-packets to carry the full amount of the data payload, and a timing of the arrival of the sub-packets. LaRosa, in the same field of endeavor, discloses that in a wireless communication system (see column 1, lines 22-27), the transmission packets may desirably contain: destination address data, representing the identity of the receiver to receive the transmission packets, the transmission rate of the packets, and the number of packets to carry the full amount of the data payload (see column 6, lines 28-45). Although LaRosa does not expressly disclose transmitting the transmission rate and number of sub-packet as opposed to packets, it would have been clearly recognizable to one of ordinary skill in the art at the time of invention to communicate the number and the transmission rate of sub-packets instead of packets to meet the design requirement of the system. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Park and Rhoads as suggested by LaRosa to improve error correction and detection at the receiver. Park, Rhoads, and LaRosa disclose all the subject matters claimed in claims

1, 8, and 9, except that the message also contains a timing of the arrival of the sub-packets. Saeijs discloses a method for transmitting timing critical data (see the abstract). Saeijs discloses that the transmitter side (interpreted for instance as a mobile station) of the channel tags each transmission unit (i.e. a packet (or as explained above it can alternatively be a sub-packet), see column 2, lines 1-25), with the location of the timing critical data and its expected arrival time (see the abstract and column 22, lines 15-40). It would have been obvious to one of ordinary skill in the art at the time of invention to modify Park, Rhoads, and LaRosa as suggested by Saeijs to transmit arrival time information to the receiver to improve the efficiency of communication for time sensitive data information.

As to claim 10, Park discloses an apparatus comprising: a processor (see Fig. 2, block 214) operable to demodulate (see column 6, lines 3-8, wherein despreading has been interpreted as demodulating by the examiner, because spreading is modulating a signal with a PN code and therefore despreading is demodulating the signal using a replica of that PN code) a preamble (see the pilot) received at a first station (i.e., mobile station (MS)); a transmission power control unit (see Fig. 3, the apparatus shown in Fig. 3 has been interpreted as a power controller) for determining an energy value (see column 3, lines 14-49) for a transmission from a first station (i.e., a mobile station) to a second station (i.e., a base station), wherein the energy value is based on preamble information (the pilot signal disclosed by Park has been interpreted as the preamble because they have the same functionality and they serve the same purpose) (see pilot signal received at block 351 and processed at the first station. See also

column 3); a channel element (see block 353) for forming a message carrying the energy value (see Fig. 2, signal 216, Fig. 3, block 353, and column 3); and transmitting the message to the second station (see Figs. 2 and 3), wherein the energy value is a pilot to traffic ratio (see column 3, lines 14-44). Park does not disclose that the energy value is the traffic to pilot ratio as opposed to pilot to traffic ratio, however, since both ratios represent the relative magnitudes of two quantities, it would have been obvious to one of ordinary skill in the art to pick any of these ratios (either pilot to traffic or traffic to pilot) to convey the energy information (i.e. conveying the energy value of the signal transmitted in the channel) to obtain the same results. Park also does not disclose locating the energy value in a look-up table and selecting an index value associated with the energy value, and forming a message carrying the index value. Furthermore, Park does not disclose that the message carries an identity of a target destination of the payload data, a transmission rate of a sub-packet, a number of sub-packets to carry the full amount of the data payload, and a timing of arrival of the sub-packets. As to the first limitation, Rhoads discloses a wireless communication system (see the abstract), wherein a ROM in the telephone device stores 256 different messages. Rhoads further discloses that when the telephone is operated, it generates an index for the stored messages and transmits this index to the call site allowing the central office station to identify the expected message from the matching database on a secure disk 52 containing the same 256 messages (see column 12, second paragraph). Although Rhoads does not disclose that the saved messages are energy values, however, Rhoads's reference contains a general teaching of saving a value in a memory and

sending only the index of that value to the other parties in a communication system to increase the security of the system (see the abstract). Therefore for the reason stated above, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Park as suggested by Rhoads to achieve a higher level of security in the system. Rhoads does not disclose that the ROM is a look-up-table, however, using a look-up table instead of a ROM is a matter of design choice and it would have been obvious to one of ordinary skill in the art at the time of invention to use a look-up table instead of the ROM to meet the design requirements of the system. Park and Rhoads, disclose all the subject matters claimed in claim 10, except that the message also carries an identity of a target destination of a data payload, a transmission rate of the sub-packet, a number of sub-packets to carry the full amount of the data payload, and a timing of the arrival of the sub-packets. LaRosa, in the same field of endeavor, discloses that in a wireless communication system (see column 1, lines 22-27), the transmission packets may desirably contain: destination address data, representing the identity of the receiver to receive the transmission packets, the transmission rate of the packets, and the number of packets to carry the full amount of the data payload (see column 6, lines 28-45). Although LaRosa does not expressly disclose transmitting the transmission rate and number of sub-packet as opposed to packets, it would have been clearly recognizable to one of ordinary skill in the art at the time of invention to communicate the number and the transmission rate of sub-packets instead of packets to meet the design requirement of the system. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Park and Rhoads as

suggested by LaRosa to improve error correction and detection at the receiver. Park, Rhoads, and LaRosa disclose all the subject matters claimed in claim 10, except that the message also contains a timing of the arrival of the sub-packets. Saeijs discloses a method for transmitting timing critical data (see the abstract). Saeijs discloses that the transmitter side (interpreted for instance as a mobile station) of the channel tags each transmission unit (i.e. a packet (or as explained above it can alternatively be a sub-packet), see column 2, lines 1-25), with the location of the timing critical data and its expected arrival time (see the abstract and column 22, lines 15-40). It would have been obvious to one of ordinary skill in the art at the time of invention to modify Park, Rhoads, and LaRosa as suggested by Saeijs to transmit arrival time information to the receiver to improve the efficiency of communication for time sensitive data information.

As to claims 7 and 16, Park shows that the first station is a remote station and the second station is a base station (see Figs. 2 and 3).

As to claims 6 and 15, Park does not disclose that the first station is a base station and the second station is a remote station. However, it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Park and transfer the power report from the base station to the mobile station instead to control the transmission power of the signals transmitted from the mobile station and therefore reduce the power consumption in the whole system.

As to claim 17, Park discloses an apparatus comprising: a processor (see Fig. 2, block 214) operable to demodulate (see column 6, lines 3-8, wherein despreading has been interpreted as demodulating by the examiner, because spreading is modulating a

signal with a PN code and therefore despreading is demodulating the signal using a replica of that PN code) a preamble (see the pilot) received at a first station (i.e., mobile station (MS)); a transmission power control unit (see Fig. 3, the apparatus shown in Fig. 3 has been interpreted as a power controller) for determining an energy value (see column 3, lines 14-49) for a transmission from a first station (i.e., a mobile station) to a second station (i.e., a base station), wherein the energy value is based on preamble information (the pilot signal disclosed by Park has been interpreted as the preamble because they have the same functionality and they serve the same purpose) (see pilot signal received at block 351 and processed at the first station. See also column 3); a channel element (see block 353) for forming a message carrying the energy value (see Figs. 3, block 353); and transmitting the message to the second station (see Figs. 2 and 3), wherein the energy value is a pilot to traffic ratio (see column 3, lines 14-44). Park does not disclose that the energy value is the traffic to pilot ratio as opposed to pilot to traffic ratio, however, since both ratios represent the relative magnitudes of two quantities, it would have been obvious to one of ordinary skill in the art to pick any of these ratios (either pilot to traffic or traffic to pilot) to convey the energy information (i.e. conveying the energy value of the signal transmitted in the channel) to obtain the same results. Park does not disclose that the transmitter is adapted to transmit the message in a forward link channel to the remote stations. However, it would have been obvious to one of ordinary skill in the art at the time of invention to use the techniques taught by park and transmit the message in a forward link (as opposed to the reverse link as taught by Park) to control the transmission

power of the signals transmitted from the mobile station as well and therefore reduce power consumption in the whole system. Park also does not disclose locating the energy value in a look-up table and selecting an index value associated with the energy value, and forming a message carrying the index value. Furthermore, Park does not disclose that the message carries an identity of a target destination of the payload data, a transmission rate of a sub-packet, a number of sub-packets to carry the full amount of the data payload, and a timing of arrival of the sub-packets. As to the first limitation, Rhoads discloses a wireless communication system (see the abstract), wherein a ROM in the telephone device stores 256 different messages. Rhoads further discloses that when the telephone is operated, it generates an index for the stored messages and transmits this index to the call site allowing the central office station to identify the expected message from the matching database on a secure disk 52 containing the same 256 messages (see column 12, second paragraph). Although Rhoads does not disclose that the saved messages are energy values, however, Rhoads's reference contains a general teaching of saving a value in a memory and sending only the index of that value to the other parties in a communication system to increase the security of the system (see the abstract). Therefore for the reason stated above, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Park as suggested by Rhoads to achieve a higher level of security in the system. Rhoads does not disclose that the ROM is a look-up-table, however, using a look-up table instead of a ROM is a matter of design choice and it would have been obvious to one of ordinary skill in the art at the time of invention to use a look-up

table instead of the ROM to meet the design requirements of the system. Park and Rhoads, disclose all the subject matters claimed in claim 17, except that the message also carries an identity of a target destination of a data payload, a transmission rate of the sub-packet, a number of sub-packets to carry the full amount of the data payload, and a timing of the arrival of the sub-packets. LaRosa, in the same field of endeavor, discloses that in a wireless communication system (see column 1, lines 22-27), the transmission packets may desirably contain: destination address data, representing the identity of the receiver to receive the transmission packets, the transmission rate of the packets, and the number of packets to carry the full amount of the data payload (see column 6, lines 28-45). Although LaRosa does not expressly disclose transmitting the transmission rate and number of sub-packet as opposed to packets, it would have been clearly recognizable to one of ordinary skill in the art at the time of invention to communicate the number and the transmission rate of sub-packets instead of packets to meet the design requirement of the system. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Park and Rhoads as suggested by LaRosa to improve error correction and detection at the receiver. Park, Rhoads, and LaRosa disclose all the subject matters claimed in claim 17, except that the message also contains a timing of the arrival of the sub-packets. Saeijs discloses a method for transmitting timing critical data (see the abstract). Saeijs discloses that the transmitter side (interpreted for instance as a mobile station) of the channel tags each transmission unit (i.e. a packet (or as explained above it can alternatively be a sub-packet), see column 2, lines 1-25), with the location of the timing critical data and its

expected arrival time (see the abstract and column 22, lines 15-40). It would have been obvious to one of ordinary skill in the art at the time of invention to modify Park, Rhoads, and LaRosa as suggested by Saeijs to transmit arrival time information to the receiver improve the efficiency of communication for time sensitive data information.

As to claim 18, Park discloses an apparatus comprising: a processor (see Fig. 2, block 214) operable to demodulate (see column 6, lines 3-8, wherein despreading has been interpreted as demodulating by the examiner, because spreading is modulating a signal with a PN code and therefore despreading is demodulating the signal using a replica of that PN code) a preamble (see the pilot) received at a first station (i.e., mobile station (MS)); a transmission power control unit (see Fig. 3, the apparatus shown in Fig. 3 has been interpreted as a power controller) for determining an energy value (see column 3, lines 14-49) for a transmission from a first station (i.e., a mobile station) to a second station (i.e., a base station), wherein the energy value is based on preamble information (the pilot signal disclosed by Park has been interpreted as the preamble because they have the same functionality and they serve the same purpose) (see pilot signal received at block 351 and processed at the first station. see also column 3); a channel element (see block 353) for forming a message carrying the energy value (see Figs. 2, Fig. 3., block 353, and column 3); and transmitting the message to the second station (see Figs. 2 and 3), wherein the energy value is a pilot to traffic ratio (see column 3, lines 14-44). Park further shows that a transmitter is adapted to transmit the message in a reverse line channel to the base station (see Fig. 2, signal 216 and Fig. 3, the message transmitted from block 353). Park does not

disclose that the energy value is the traffic to pilot ratio as opposed to pilot to traffic ratio, however, since both ratios represent the relative magnitudes of two quantities, it would have been obvious to one of ordinary skill in the art to pick one of these ratios (either pilot to traffic or traffic to pilot) to convey the energy information to obtain the same results (i.e. conveying the energy value of the signal transmitted in the channel). Park also does not disclose locating the energy value in a look-up table and selecting an index value representing the energy value, and forming a message carrying the index value. Furthermore, Park does not disclose that the message carries an identity of a target destination of the payload data, a transmission rate of a sub-packet, a number of sub-packets to carry the full amount of the data payload, and a timing of arrival of the sub-packets. As to the first limitation, Rhoads discloses a wireless communication system (see the abstract), wherein a ROM in the telephone device stores 256 different messages. Rhoads further discloses that when the telephone is operated, it generates an index for the stored messages and transmits this index to the call site allowing the central office station to identify the expected message from the matching database on a secure disk 52 containing the same 256 messages (see column 12, second paragraph). Although Rhoads does not disclose that the saved messages are energy values, however, Rhoads's reference contains a general teaching of saving a value in a memory and sending only the index of that value to the other parties in a communication system to increase the security of the system (see the abstract). Therefore for the reason stated above, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Park as suggested by Rhoads

to achieve a higher level of security in the system. Rhoads does not disclose that the ROM is a look-up-table, however, using a look-up table instead of a ROM is a matter of design choice and it would have been obvious to one of ordinary skill in the art at the time of invention to use a look-up table instead of the ROM to meet the design requirements of the system. Park and Rhoads, disclose all the subject matters claimed in claim 18, except that the message also carries an identity of a target destination of a data payload, a transmission rate of the sub-packet, a number of sub-packets to carry the full amount of the data payload, and a timing of the arrival of the sub-packets. LaRosa, in the same field of endeavor, discloses that in a wireless communication system (see column 1, lines 22-27), the transmission packets may desirably contain: destination address data, representing the identity of the receiver to receive the transmission packets, the transmission rate of the packets, and the number of packets to carry the full amount of the data payload (see column 6, lines 28-45). Although LaRosa does not expressly disclose transmitting the transmission rate and number of sub-packet as opposed to packets, it would have been clearly recognizable to one of ordinary skill in the art at the time of invention to communicate the number and the transmission rate of sub-packets instead of packets to meet the design requirement of the system. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Park and Rhoads as suggested by LaRosa to improve error correction and detection at the receiver. Park, Rhoads, and LaRosa disclose all the subject matters claimed in claim 18, except that the message also contains a timing of the arrival of the sub-packets. Saeijs discloses a method for transmitting timing critical

data (see the abstract). Saeijs discloses that the transmitter side (interpreted for instance as a mobile station) of the channel tags each transmission unit (i.e. a packet (or as explained above it can alternatively be a sub-packet), see column 2, lines 1-25), with the location of the timing critical data and its expected arrival time (see the abstract and column 22, lines 15-40). It would have been obvious to one of ordinary skill in the art at the time of invention to modify Park, Rhoads, and LaRosa as suggested by Saeijs to transmit arrival time information to the receiver to improve the efficiency of communication for time sensitive data information.

5. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park, Rhoads, LaRosa, and Saeijs, further in view of Balachandran (US 6,608,828).

As to claims 2 and 11, Park, Rhoads, LaRosa, and Saeijs, disclose all the subject matters claimed in claims 1 and 10, except for positioning the message in a preamble. Balachandran, in the same field of endeavor, discloses a header (see Fig. 8) (interpreted as preamble) (interpreted as a message) that is repeatedly transmitted and received, along with data, on a radio channel, wherein the header is decoded to identify values for the header fields (see the abstract). Balachandran further discloses that the header comprises a power reduction field (see column 4, lines 25-30) to increase the reliability of the decoding process (see column 4, lines 25-33). It would have been obvious to one of ordinary skill in the art at the time of invention to position the power control information in the preamble in order to inform the power control information to the second station right after the start of data reception and adjust signal power as soon as possible.

6. Claims 3, 4, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park, Rhoads, LaRosa, and Saeijs, further in view of Guo et al. (hereafter, referred as Guo) (US 6,389,034).

As to claims 3 and 12, Park, Rhoads, LaRosa, and Saeijs, disclose all the subject matters claimed in claims 1 and 10, except that the step of transmitting the message (power control information) comprises positioning the message in a sub-packet. Guo, in the same field of endeavor, discloses an apparatus comprising a base station and plurality of remote terminals. Guo discloses a frame structure, which includes sub-channel information (including power control information) being transmitted from the base station to the remote terminals or vice versa (see column 14, last paragraph). Guo further discloses that transmitting the power control information comprises positioning the information in a sub-packet (see column 14, lines 27-41). It would have been obvious to one of ordinary skill in the art at the time of invention to place the power control information (i.e. value of the signal energy) in the sub-packet before transmitting them form a base station to a mobile station or vice versa in order to make the extraction of the information fast and easy (i.e. without detecting and processing the header) and as the result make very quick power control adjustments as suggested by Guo (see column 14, lines 29-33).

As to claim 4 and 13, Park, Rhoads, LaRosa, and Saeijs, disclose all the subject matters claimed in claims 1 and 10, except that the step of transmitting the message (power control information) comprises positioning the message between a preamble and a sub-packet. Guo shows that the step of transmitting the message comprises

positioning the message between a preamble and a sub-packet (see Fig. 4B). It would have been obvious to one of ordinary skill in the art at the time of invention to position the power control information (i.e. value of the signal energy) between the preamble and the sub-packet to make the extraction of the power control information fast and easy (i.e. without processing the preamble) and as the result make very quick power control adjustments as suggested by Guo (see column 14, lines 29-41).

7. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park, Rhoads, LaRosa, and Saeijs, further in view of Okanoue (US 6,738,375).

As to claim 19, Park, Rhoads, LaRosa, and Saeijs disclose all the subject matters claimed in claim 19, except that the packet received by the mobile station includes a message and a data sub-packet, in addition to the preamble. Okanoue discloses a mobile station (see Fig. 5 and column 1) for receiving an incoming signal and determining the power using the signal (see block 111). Okanoue further discloses that the incoming packet includes a message (see Fig. 1, the message carried by data portion 102), a data sub-packet (see the data portion 102), and a preamble (see block 101). It would have been obvious to one of ordinary skill in the art at the time of invention to modify Park, Rhoads, LaRosa, and Saeijs, as suggested by Okanoue in order to provide a packet configuration technique that correctly estimates a channel impulse response, and the power, and then demodulates the received packet even when a transmitted packet is erroneously detected in timing in the communication mode (see column 2).

8. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park, Rhoads, LaRosa, Saeijs, and Okanoue, further in view of Gopalakrishnan et al. (hereafter, referred as Gopalakrishnan) (US 6,859,446).

As to claim 20, Park, Rhoads, LaRosa, Saeijs, and Okanoue disclose all the subject matters claimed in claim 19, except that the packet is received by the first station via a traffic channel. Gopalakrishnan, in the same field of endeavor, discloses an apparatus comprising a base station and a mobile station (see column 5, lines 44-50). Gopalakrishnan discloses that the base station transmits an available power message to the mobile station (see column 5, lines 44-50). Gopalakrishnan further discloses that the available power message may be a burst pilot signal which is transmitted over the data (interpreted as traffic) channel (see column 6, lines 11-30). It would have been obvious to one of ordinary skill in the art at the time of invention to modify Park and transmit the pilot signal through the data channel to avoid using extra channels only for transmitting the pilot (preamble) information and therefore reduce number of channels and the required bandwidth in the communication system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leila Malek whose telephone number is 571-272-8731. The examiner can normally be reached on 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

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